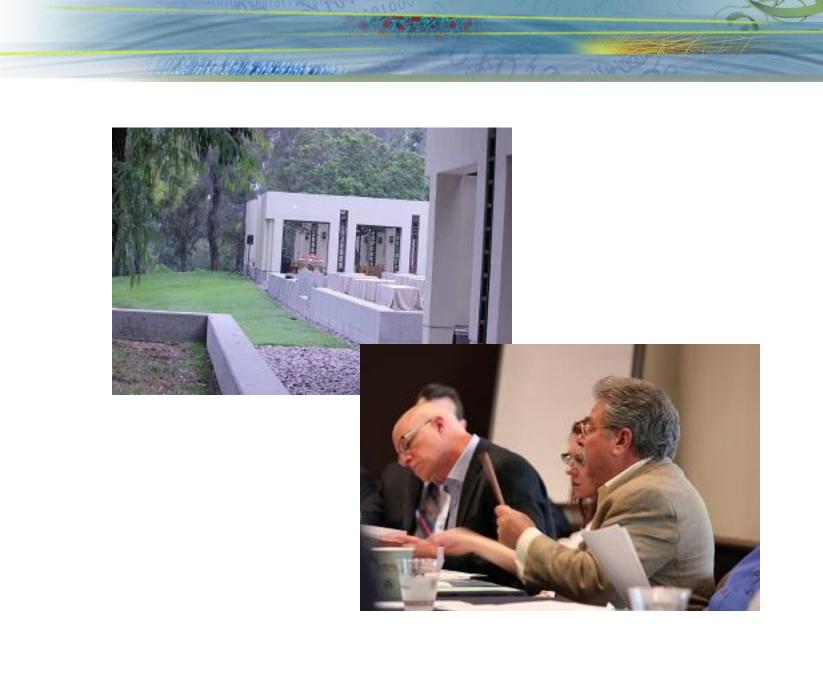
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In cooperation with local hosts and co-organizers

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Workshop on Building the National Network for Manufacturing Innovation

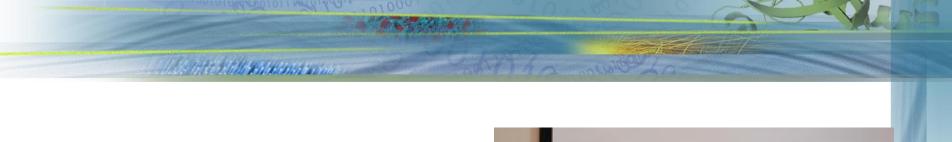
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Irvine, California ◆ September 27, 2012



Strategies for Sustainable Operations

| TOP ISSUES | REMARKS |
|--|---|
| Identifying successful co-investment models | 1 – flexibility - non traditional approach allowed |
| | 2 – flexibility with IP for revenue stream |
| | 3 – balancing access of large and small companies |
| Best Practices for Building on Existing Programs | regional membership with national access – center of the universe for customer |
| How to Measure Success | Jobs added and crated in the area; new products and patents; accelerated speed to market; value added – what we launched is better with this resource; number of people educated; number of international companies – revenue and market share. |
| | |









Institute Structure and Governance

| TOP ISSUES | REMARKS |
|--|--|
| What business models would be effective for the Institutes to manage business decisions? | Models for consideration: Neil Gershenfeld's Fab Lab (Creating a global network) Creating a network worldwide for sharing education topics for MIT. Decentralizing and creating an open source for sites to be able to create standardized processes for best practices. Partnering with other members in nearby networks? Hosting a center at the University Partnering with other members in nearby networks. Fee for Service Model Industry Panel, Academic Panel, Government to approve activity and prioritization In Tech Shop model Sema Tech Model Limit regulations to encourage innovation. |
| How could a network of institutes optimally operate? | Options Discussed: Hub to document and share protocols, resources, human capital, procedures, and communications. Used as a Knowledge tool library |

Institute Structure and Governance

| TOP ISSUES | REMARKS |
|--|---|
| What membership participation structure should be effective for the Institutes, such as financial and intellectual property obligations, access and licensing? | Models discussed: Tiered membership structure Fee for service membership to create style of division. Chinese menu type options Extend memberships to stakeholders Shared IP rights between participating entities in institute with overall governance by BOD |
| What measures could assess effectiveness of Network structure and governance? | Measures Discussed: Economic development and manufacturing job creation Pre-assessment/post-assessments depending on process of project to collect data (self assessment tool) Establish education strategy to encourage children to join the industry Deposit membership fee and not return it until assessment has been completed Engagement with the industry. Reinvestment into Institute and membership growth Ability to attract outside capital and investment |

Institute Structure and Governance

| TOP ISSUES | REMARKS |
|---|---|
| What Governance model would be effective for the Institutes to manage the governance decisions? | Models for consideration: Stakeholders should not have day to day responsibilities Divisional leaders responsible for making the decisions. As an official decision. Hold stakeholders accountable for decisions. More cooperative structure Small companies need to be represented. "Hub and Spoke" Model: General BOD that oversees industry-related subgroups that manages/supervises industry specific activities |

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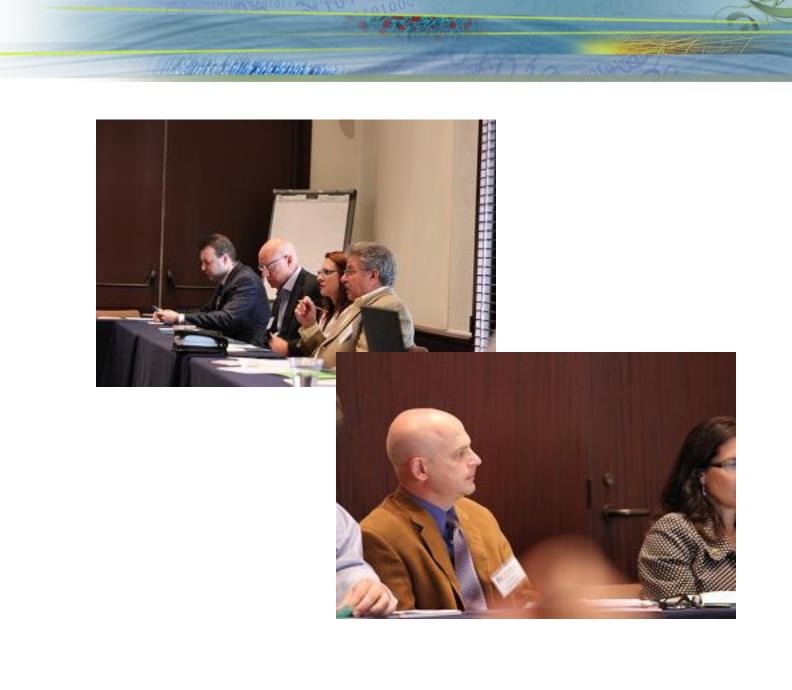
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Education & Workforce Development

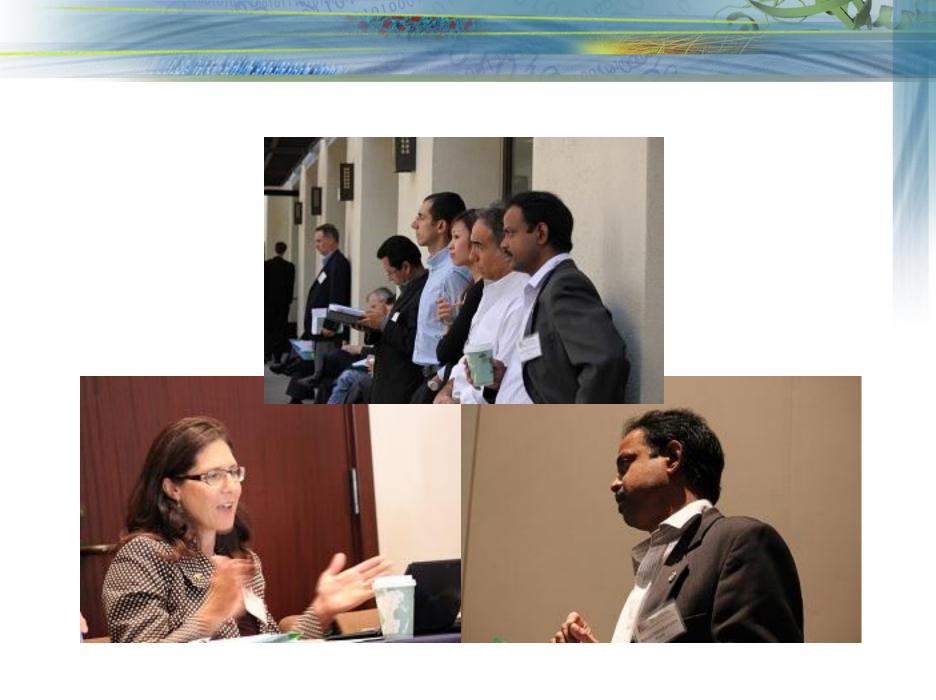
| TOP ISSUES | REMARKS |
|------------------------------------|--|
| On-distance learning | Increase access. Increase on-line distance modeling that count for post-secondary credit, or that are recognized as valued in the industry. On-line learning modules that pair students to the different kind of programs. On-line curricula that they could take programs/classes at any time, not necessarily in a structured environment. |
| Student and Business Engagement | Hands-on teaching and learning – Business leaders to the classroom – start at a younger level Bring in social network—science channel—Tube. |
| Lack of Equipment | Partner with business to utilize relevant equipment for the industry. |

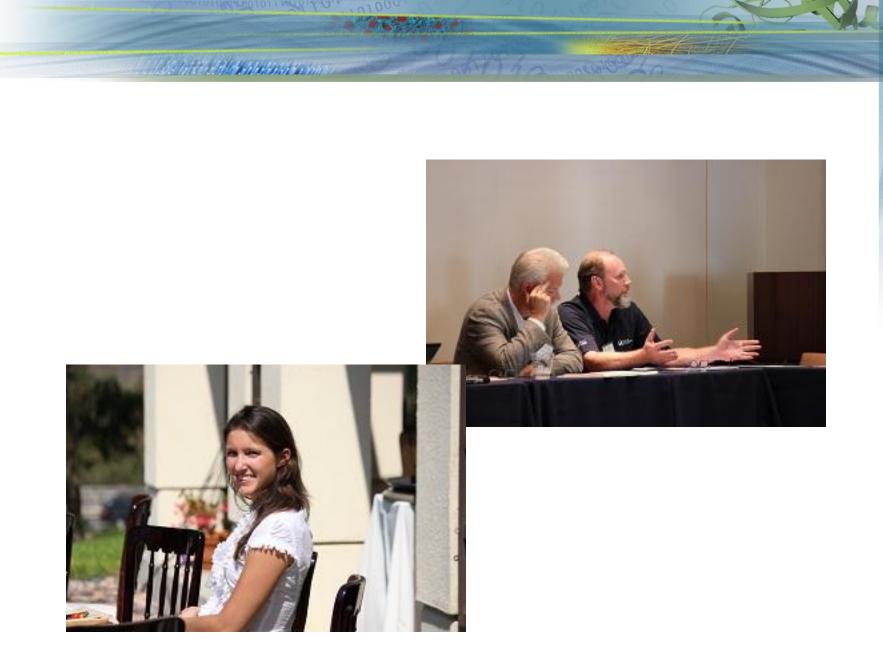
Education & Workforce Development

| TOP ISSUES | REMARKS |
|-------------------------|--|
| Education Accessibility | Getting students to easy access programs Online programs Certificates Student participation Resources shared Learning at their own pace Introducing students to a wide range of activities: field trips, 3-day programs, lego programs, etc. Simulated learning environment Lack of vocational training Bring back high school programs |
| Manufacturing Image | Getting students interested in manufacturing National campaign, introduce and re-label manufacturing Bridging the gap between education and industry After-school programs |

Education & Workforce Development

| TOP ISSUES | REMARKS |
|-----------------------------|---|
| Advanced Manufacturers | - Programs are disappearing from the schools |
| to Linked-In | - Loss of instructional capital |
| System for training | - Professors are disappearing from universities that |
| teachers | have manufacturing degrees |
| | - System for training teachers |
| Enabling student creativity | - Collaboration methods with other manufacturing groups |
| | - College students working with high-school students |
| | - Developing alternative schools |
| | - Get students to work on real-world problems |
| | - Base for innovation |





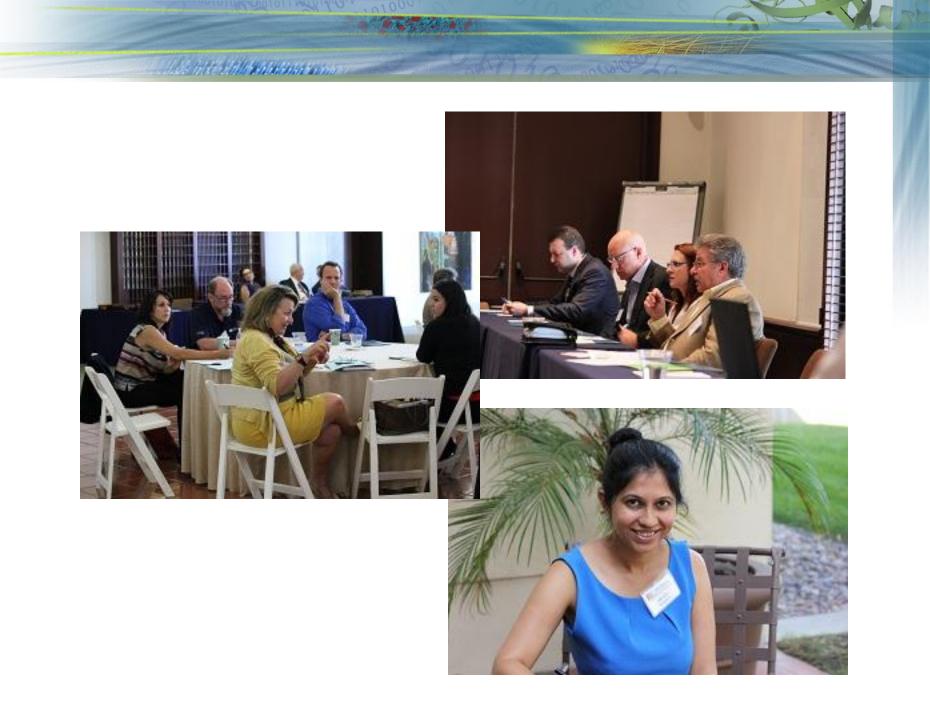
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Technologies with Broad Impact

| Top Issues | Remarks |
|-----------------------------|--|
| | "Why must we select technologies?" |
| Should IMI should be | "Why not let proposers makea compelling case for their |
| technology centric? | ecosystem?" |
| Criteria that measure value | Return on Investment |
| across a spectrum | Address National or Regional needs |
| | Energy |
| | Communication |
| | Health |
| | Transportation |
| | Food Production |
| | Defense and Security |
| Focus on Markets | LED Lights |

Technologies with Broad Impact

| Top Issues | Remarks |
|-----------------------------|--|
| Ecosystem | Look at the interacting pieces and make a case for synergistic added value |
| Proposal Evaluation | • |
| Will the institutes be | |
| stovepipes that don't | |
| address a wide swath of | |
| problems? | • |
| Does the technology create | |
| jobs and career development | |
| paths? | • |
| Wow Factor. | Emphasis on the state of the art. |
| | |

Technologies with Broad Impact

| Top Issues | Remarks |
|-----------------------------|--|
| Clearinghouse to provide | |
| direction and assistance | |
| IP Generation | |
| Translating university | |
| research for manufacturing. | |
| Incubator | Place to try out new ideas with expert help |
| | Where is the pain? What developments will help |
| Survey Manufacturers | manufacturers produce better? |
| | |
| | |